

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-11 are pending in the application/

Claims 4-7 are indicated to have been withdrawn.

Claims 1-3 and 8-11 stand rejected.

Claims 1, 8, 9, and 11 are independent claims.

Claims 1 and 3-11 have been amended.

Objection to the Drawings

The Examiner has objected to the drawings because the legend —Prior Art—was not included on Figure 1 as this drawing includes only that information that is old. Also, Figures 3 and 5 are objected to as these drawings should be given labels to make them easier to understand in English.

Applicant thanks the Examiner for his observation and has provided herein an amendment to Figure 1, annotated as Replacement Sheet, showing the label "Prior Art," as requested by the Examiner.

Applicant respectfully requests entry of this replacement sheet.

However, with regard to Figures 3 and 5, applicant submits that these figures, in conjunction of the description of the elements shown in Figures 3 and 5 provide sufficient teaching so that one skilled in the art would understand the principles of the invention, without undue experimentation.

Accordingly, applicant submits that Figures 3 and 5 are in adequate form to assist one skilled in the art to understand the invention claimed and that amendments to these drawings is not necessary.

For the submission of the amendment to Figure 1, applicant submits that the reason for the objection has been overcome and respectfully requests that the objection be withdrawn.

Objection to the Specification

The specification has been objected to for:

including the term "pitch bell," which the Examiner indicates may not be the best and most common term that might be used; and

page 5, lines 31-33 did not photo copy properly.

Applicant thanks the Examiner for his observation. However, after a review of the originally submitted specification, drawings and claims, applicant notes that the term "pitch bell" and its use has been consistent throughout. Accordingly, one skilled in the art would understand and recognize how the term pitch bell is used without requiring undue experimentation.

Accordingly, applicant respectfully elects not to amend the specification, the drawings and the claims to include the term "pitch cycle" suggested by the Examiner.

With regard to the poor copying of lines 31-33 on page 5, applicant has provided herein amendments to the specification to correct the poor copy. No amendment has been made to the subject matter recited in the originally submitted specification.

For the remarks made herein, applicant submits that the reason for the objection to the specification has been overcome and respectfully requests that the objection be withdrawn.

Object to and withdrawal of the Claims

Claims 4-7 are objected to for being in improper form and have been withdrawn from consideration by the Examiner .

Applicant has amended the aforementioned claims to place these claims in an acceptable form and respectfully requests that these claims be returned to an active status as applicant has no intention of withdrawing these claims from consideration.

For the amendments made to the claims, applicant submits that the reason for the objection has been overcome and applicant respectfully requests that the objection be withdrawn and that the claims be considered on the merits.

Rejection of under 35 USC 101

Claim 11 stands rejected under 35 USC 101 as being directed to non-statutory subject matter.

Applicant respectfully disagrees with and explicitly traverses the rejection of the claim. However, in the interest of advancing the prosecution of this matter, applicant has elected to amend the claim to place the claim in better form.

For the amendment made to the claim, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

Rejection of under 35 USC 112

Claim 11 stands rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The Examiner asserts that claim 11 recites a single means claims and, hence, recites only a single element.

Applicant respectfully disagrees with and explicitly traverses the rejection of the claim. However, in the interest of advancing the prosecution of this matter, applicant has elected to amend the claim to place the claim in better form.

For the amendment made to the claim, applicant submits that the reason for the rejection has been overcome and respectfully requests that the rejection be withdrawn.

Rejection of under 35 USC 103

Claims 1, 2 and 8-11 stand rejected under 35 USC §103(a) as being unpatentable over Violaro (A Hybrid Model for Text-to-Speech Synthesis) in view of Ljolje (Synthesis of Natural Sounding Pitch Contours in Isolated Utterance Using Hidden Markov Models.).

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claims. However, the independent claims have been amended to present the subject matter claimed in better form and to further recite that a type of windowing is performed based on the type of signal being windowed. Also, claims 1 and 8 have been amended to include the claim element that the pitch bells are uniformly selected based on a number of pitch bells. No new matter has been added. Support for the amendment may be found at least on page 4, line 26-page 5, line 7.

Violaro discloses a hybrid model for text-to-speech synthesis that develops a plurality of pitch marks positioned at the peaks of a signal in a voiced segment (and at a fixed frequency in unvoiced segments). Violaro further discloses determining a maximum frequency for the noise component in an unvoiced segment and determining harmonics of the original signal to extend the original signal over a greater range. (see col. 1, lines 49-56). Violaro further discloses that in synthesis of the signal, new marks are introduced and that each set of harmonic and noise parameters is associated with the new marks. Furthermore, the new association requires that the harmonic parameters be changed to satisfy the new duration and pitch constraints.

Violaro fails to disclose either the random select of the harmonic and noise parameters (assuming these elements are comparable with the pitch bells recited in the claims) or that the determination of the harmonics and noise parameters are determined by a windowing function and the window function is based on a type of signal.

Ljolje discloses a method for characterizing prosodic structures for use in speech synthesis. Ljolje discloses modeling of a set of observations as a probabilistic function of a hidden Markov chain (HMM). Ljolje further discloses that fundamental frequency contours are synthesized from the model using a random number generator.

Ljolje, hence, uses a modeling method for speech generation and the use of a random number generator to determine a fundamental frequency of the speech signal. Ljolje fails to teach random selection of characteristics of the signal (pitch bells) in the development of the synthesized signal, as is recited in the claims.

Hence, if the teachings of Ljolje were combined with that of Violaro, the combination would teach a system that determines a fundamental frequency of the speech signal and then the determination of harmonics as disclosed by Violaro. Nowhere does the teaching of the combination of Violaro and Ljolje teach randomly selecting characteristics of the sound signal to develop the synthesized signal.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met, 1. there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the reference teachings, 2. there must be a reasonable expectation of success; and 3. the prior art reference must teach or suggest all the claim limitations.

In this case, a *prima facie* case of obviousness has not been made as each of the elements recited in the claims, as amended, is not disclosed by the combination of Vioaro and Ljolje.

For the amendments made to the independent claims and for the remarks made herein, applicant submits that the reason for the rejection of the independent claims has been overcome and respectfully requests that the rejection be withdrawn.

Each of the remaining claims depends from one of the independent claims, which include subject matter not disclosed by the cited references and, consequently, the remaining dependent claims are also not rendered obvious by the cited references.

For at least the remarks above, applicant submits that the rejection of the dependent claims has been overcome and respectfully requests that the rejection be withdrawn.

Claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Violaro in view of Ljolje and further in view of Kagoshima (USP no. 7,250,601).

Applicant respectfully disagrees with and explicitly traverses the rejection of the claims.

Claim 3 depends from claim 1, which has been shown to include subject matter not disclosed by Violaro and Ljolje. Kagoshima fails to provide any teaching that would suggest the subject matter not disclosed by Violaro and Ljolje. Hence, the combination of the cited references would fail to teach all the elements recited in independent claim 1 and, consequently, independent claim 3.

For at least amendments made to the claims and for the remarks made herein, applicant submits that all the objections and rejections have been overcome and respectfully requests that all the objections and rejections be withdrawn. Applicant further submits that all claims are in an allowable form and that a Notice of Allowance is respectfully requested be issued.

Should the Examiner believe that the disposition of any issues arising from this response may be best resolved by a telephone call, the Examiner is invited to contact applicant's representative at the telephone number listed below.

Respectfully submitted,
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